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10/654,559	09/02/2003	Robert N. Hasbun	42P4017C2	5073

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EXAMINER	
ELMORE, REBA I	

ART UNIT	PAPER NUMBER
2189	

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/654,559	HASBUN ET AL.	
	Examiner	Art Unit	
	Reba I. Elmore	2189	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/23/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1- are presented for examination.

SPECIFICATION

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

DOUBLE PATENTING

3. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

4. A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

5. Claims 1-21 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-21 of prior U.S. Patent No. 6,622,200. This is a double patenting rejection.

10/654,559	*6,622,200*
1. A method of re-allocating object space within a block erasable nonvolatile memory comprising the steps of:	1. A method of re-allocating object space within a block erasable nonvolatile memory, the method comprising:

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a) storing a location of a first object in a first data structure within the nonvolatile memory;	a) storing in a first data structure within the nonvolatile memory a location and a status of a first object;
b) storing a location of the first data structure in a second data structure within the nonvolatile memory;	b) storing in a second data structure within the nonvolatile memory a location of the first data structure to track the first data structure and a status of the re-allocating process;
c) initiating an erase of the first object;	c) initiating an erase of the first object based on the status of the re-allocating process stored in the second data structure;
d) tracking an erase status of the first object.	d) tracking an erase status stored in the first data structure of the first objects, and
2. The method of claim 1 further comprising the steps of:	
e) completing the erase of the first object upon initialization of the nonvolatile memory, if the erase status indicates erasure of the first object has not completed.	e) completing the erase of the first object upon initialization of the nonvolatile memory, if the erase status of the first object indicates erasure of the first object has not completed.
3. The method of claim 2 wherein initialization occurs upon re-application of power to the nonvolatile memory.	3. The method of claim 2 wherein the initialization of the nonvolatile memory occurs upon re-application of power to the nonvolatile memory.
4. A method of re-allocating object space within a block erasable nonvolatile memory, comprising the steps of:	4. A method of re-allocating object space within a block erasable nonvolatile memory, the method comprising:
a) storing a location of a first object in a first data structure within the nonvolatile memory;	a) storing in a first data structure within the nonvolatile memory a location and a status of the first object;
b) storing a location of the first data structure in a second data structure within the nonvolatile memory;	b) storing in a second data structure within the nonvolatile memory a location of the first data structure to track the first data structure and a status of the re-allocating process;

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c) initiating a copy of the first object to form a duplicate object within the nonvolatile memory;

c) initiating a copy of the first object to form a duplicate object within the nonvolatile memory based on the status of the re-allocating process stored in the second data structure; and

d) tracking a copying status of the first object.

tracking a copying status stored in the first data structure of the first object.

5. The method of claim 4, wherein step a) further comprises the steps of:

5. The method of claim 4 wherein a) further comprises:

i) determining an object class for the first object, wherein objects of a first class are stored contiguously proceeding from a first end towards a second end of a managed object space within the nonvolatile memory to form a first class of space, wherein objects of a second class are stored contiguously proceeding from the second end towards the first end of managed object space to form a second class of space;

i) determining an object class for the first object, wherein objects of a first class are stored contiguously proceeding from a first end towards a second end of a managed object space within the nonvolatile memory to form a first class of space, wherein objects of a second class are stored contiguously proceeding from the second end towards the first end of managed object space to form a second class of space;

ii) storing a first data structure header identifying the first data structure at a bottom of the first class of space; and

ii) storing a first data structure header identifying the first data structure at a bottom of the first class of space; and

iii) storing the first data structure at a selected one of the bottom of the first class of space and a bottom of the second class of space in accordance with the object class of the original object.

iii) storing the first data structure at a selected one of the bottom of the first class of space and a bottom of the second class of space in accordance with the object class of the original object.

6. The method of claim 4 wherein the second data structure is located at a pre-determined position within the nonvolatile memory.

6. The method of claim 4 wherein the second data structure is located at a pre-determined position within the nonvolatile memory.

7. The method of claim 4, wherein step c) further comprises the steps of:

7. The method of claim 4, wherein c) further comprises:

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i) determining an object class for the first object, wherein objects of a first class are stored contiguously proceeding from a first end towards a second end of a managed object space within the nonvolatile memory to form a first class of space, wherein objects of a second class are stored contiguously proceeding from the second end towards the first end of managed object space to form a second class of space;	i) determining an object class for the first object, wherein objects of a first class are stored contiguously proceeding from a first end towards a second end of a managed object space within the nonvolatile memory to form a first class of space, wherein objects of a second class are stored contiguously proceeding from the second end towards the first end of managed object space to form a second class of space;
ii) storing a duplicate header identifying the duplicate object at a bottom of the first class of space; and	ii) storing a duplicate header identifying the duplicate object at a bottom of the first class of space; and
iii) copying the first object to the duplicate object, wherein the duplicate object is located at a selected one of the bottom of the first class of space and a bottom of the second class of space in accordance with the object class of the first object.	iii) copying the first object to the duplicate object, wherein the duplicated object is located at a selected one of the bottom of the first class of space and a bottom of the second class of space in accordance with the object class of the first object.
8. The method of claim 4 further comprising the step of:	8. The method of claim 4 further comprising:
e) marking the duplicate object invalid upon initialization of the nonvolatile memory, if the copying status indicates copying of the first object was initiated but not completed.	e) marking the duplicate object invalid upon initialization of the nonvolatile memory, if the copying status indicates copying of the first object was initiated but not completed.
9. The method of claim 4 further comprising the steps of:	9. The method of claim 4 further comprising:
e) initiating an erase of the first object; and	e) initiating an erase of the first object based on the status of re-allocating process stored in the second data structure; and
f) tracking an erase status of the first object.	f) tracking an erase status stored in the first data structure of the first object.
10. The method of claim 9 wherein the location of the original object identifies	10. The method of claim 9 wherein the location of he original object identifies

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every block storing at least a portion of the original object, wherein step e) further comprises the step of:

i) performing the following steps for each selected block storing any portion of the object;

1) copying a bottom portion of the selected block to a temporary storage if the selected block is the first block, wherein the bottom portion is bound by a bottom block boundary of the first block and a beginning of the object;

2) copying a top portion of the last block to the temporary storage if the selected block is the last block, wherein the top portion is bound by an upper block boundary of the last block and an end of the object;

3) erasing the selected block; and

4) copying the temporary storage to the selected block, if the selected block is one of the first and the last blocks.

11. The method of claim 10 wherein the temporary storage is a reclaim block within the nonvolatile memory.

12. The method of claim 9 further comprising the step of:

g) completing the erase of the first object upon initialization of the nonvolatile memory, if the erase status indicated that erasure of the first object is not completed.

every block storing at least a portion of the original object, wherein e) further comprises:

i) performing the following for each selected block storing any portion of the object:

1) copying a bottom portion of the selected block to a temporary storage if the selected block is the first block, wherein the bottom portion is bound by a bottom block boundary of the first block and a beginning of the object;

2) copying a top portion of the last block to the temporary storage if the selected block is the last block, wherein the top portion is bound by an upper block boundary of the last block and an end of the object;

3) erasing the selected block; and

4) copying the temporary storage to the selected block, if the selected block is one of the first and the last blocks.

11. The method of claim 10 wherein the temporary storage is a reclaim block within the nonvolatile memory.

12. The method of claim 9 further comprising:

g) completing the erase of the first object upon initialization of the nonvolatile memory, if the erase status indicates that erasure of the first object is not completed.

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13. The method of claim 12 further comprising the steps of:	13. The method of claim 12 further comprising:
h) initiating a copy of the duplicate object to the location of the first object upon initialization of the nonvolatile memory, if the copying status indicates that copying of the first object was completed; and	h) initiating a copy of the duplicate object to the location of the first object upon initialization of the nonvolatile memory, if the copying status stored in the first data structure indicates that copying of the first object was completed; and;
i) tracking a restoration status of the copying of the duplicate object.	i) tracking a restoration status of the copying of the duplicate object.
14. The method of claim 13 further comprising the step of:	14. The method of claim 13 further comprising:
j) returning to step e) if the restoration status indicates that copying of the duplicate object has been initiated but is not complete.	j) returning to e) if the restoration status indicates that copying of the duplicate object has been initiated but is not complete.
15. The method of claim 9 further comprising the steps of:	15. The method of claim 9 further comprising:
g) initiating a write of a second object to the location of the first object; and	g) initiating a write of a second object to the location of the first object; and
h) tracking a writing status of the writing of the second object.	h) tracking a writing status of the writing of the second object.
16. The method of claim 15 further comprising the step of:	16. The method of claim 15 further comprising:
i) returning to step e) upon initialization of of the nonvolatile memory, if the writing status indicates that the writing of the second object has been initiated but not completed.	i) returning to e) upon initialization of the nonvolatile memory, if the writing status indicates that the writing of the second object has been initiated but no complete.
17. The method of claim 15 further comprising of the step of:	17. The method of claim 15 further comprising:
i) invalidating the duplicate object upon initialization of the nonvolatile memory,	i) invalidating the duplicate object upon initialization of the nonvolatile memory,

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if the writing status indicates that the writing of the second object has completed.	if the writing status indicates that the writing of second object has been completed.
18. The method of claim 4 wherein the nonvolatile memory comprises flash electrically erasable programmable read only memory.	18. The method of claim 4 wherein the nonvolatile memory comprises flash electrically erasable programmable read only memory.
19. The method of claim 4 wherein the nonvolatile memory is a symmetrically blocked nonvolatile memory.	19. The method of claim 4 wherein the nonvolatile memory is a symmetrically blocked nonvolatile memory.
20. The method of claim 4 wherein the nonvolatile memory is coupled to a processor, wherein executable instructions for performing steps a), b), c), d), and e) are stored in the nonvolatile memory, wherein the processor executes the executable instructions.	20. The method of claim 4 wherein the nonvolatile memory is coupled to a processor, wherein executable instructions for performing a), b), c), d), and e) are stored in the nonvolatile memory, wherein the processor executes the executable instructions.
21. The method of claim 4 wherein the nonvolatile memory is a boot device.	21. The method of claim 4 wherein the nonvolatile memory is a boot device.

6. Claims 1, 4-5, 7 and 9-10 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-3 of prior U.S. Patent No. 6,182,188. This is a double patenting rejection.

10/654,559	*6,182,188*
1. A method of re-allocating object space within a block erasable nonvolatile in a memory, comprising the steps of:	1. A method of re-allocating object space within a block erasable nonvolatile memory, the method comprising:
a) storing a location of a first object in a first data structure within the nonvolatile memory;	a) storing in a first data structure within the nonvolatile memory a location and a status of a first object, wherein a) includes:
b) storing a location of the first data structure in a second data structure within	b) storing in a second data structure within the nonvolatile memory a location of the

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the nonvolatile memory;	first data structure to track the first data structure and a status of the re-allocating process;
	3. The method of claim 1, further comprising:
c) initiating an erase of the first object;	c) initiating an erase of the first object; and
d) tracking an erase status of the first object.	f) tracking an erase status of the first based on the status of the re-allocating process stored in second data structure, wherein the location of the original object identifies every block storing at least a portion of the original object, and wherein
4. A method of re-allocating object space within a block erasable nonvolatile memory, comprising the steps of:	1. A method of re-allocating object space within a block erasable nonvolatile memory, the method comprising:
a) storing a location of a first object in a first data structure within the nonvolatile memory;	a) storing in a first data structure within the nonvolatile memory a location and a status of a first object, wherein a) includes:
b) storing a location of the first data structure in a second data structure within the nonvolatile memory;	b) storing in a second data structure within the nonvolatile memory a location of the first data structure to track the first data structure and a status of the re-allocating process;
c) initiating a copy of the first object to form a duplicate object within the nonvolatile memory;	c) initiating a copy of the first object to form a duplicate object within the nonvolatile memory based on the status of the re-allocating process stored in the second data structure; and
d) tracking a copying status of the first object.	d) tracking a copying status stored in the first data structure of the first object.
5. The method of claim 4, wherein step a) further comprises the steps of:	1.(con't) a) includes:

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i) determining an object class for the first object, wherein objects of a first class are stored contiguously proceeding from a first end towards a second end of a managed object space within the nonvolatile memory to form a first class of space, wherein objects of a second class are stored contiguously proceeding from the second end towards the first end of managed object space to form a second class of space;

ii) storing a first data structure header identifying the first data structure at a bottom of the first class of space; and

iii) storing the first data structure at a selected one of the bottom of the first class of space and a bottom of the second class of space in accordance with the object class of the original object.

7. The method of claim 4, wherein step c) further comprises the steps of:

i) determining an object class for the first object, wherein objects of a first class are stored contiguously proceeding from a first end towards a second end of a managed object space within the nonvolatile memory to form a first class of space, wherein objects of a second class are stored contiguously proceeding from the second end towards the first end of managed object space to form a second class of space;

ii) storing a duplicate header identifying the duplicate object at a bottom of the first class of space; and

i) determining an object class for the first object, wherein objects of a first class are stored contiguously proceeding from a first end towards a second end of a managed object space within the nonvolatile memory to form a first class of space, wherein objects of a second class are stored contiguously proceeding from the second end towards the first end of managed object space to form a second class of space;

ii) storing a first data structure header identifying the first data structure at a bottom of the first class of space; and

iii) storing the first data structure at a selected one of the bottom of the first class of space and a bottom of the second class of space in accordance with the object class of the original object;

7. The method of claim 1, wherein c) includes:

i) determining an object class for the first object, wherein objects of a first class are stored contiguously proceeding from a first end towards a second end of a managed object space within the nonvolatile memory to form a first class of space, wherein objects of a second class are stored contiguously proceeding from the second end towards the first end of managed object space to form a second class of space;

ii) storing a duplicate header identifying the duplicate object at a bottom of the first class of space;

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iii) copying the first object to the duplicate object, wherein the duplicate object is located at a selected one of the bottom of the first class of space and a bottom of the second class of space in accordance with the object class of the first object.

iii) copying the first object to the duplicate object, wherein the duplicate object is located at a selected one of the bottom of the first class of space and a bottom of the second class of space in accordance with the object class of the first object.

9. The method of claim 4 further comprising the steps of:

3. The method of claim 1, comprising:

e) initiating an erase of the first object; and

e) initiating an erase of the first object; and

f) tracking an erase status of the first object.

f) tracking an erase status of the first object based on the status of the re-allocating process stored in second data structure, wherein the location of the original object identifies every block block storing at least a portion of the original object,

10. The method of claim 9 wherein the location of the original object identifies every block storing at least a portion of the original object, wherein step e) further comprises the step of:

and wherein e) includes:

i) performing the following steps for each selected block storing any portion of the object;

i) performing the following for each selected block storing any portion of the object;

1) copying a bottom portion of the selected block to a temporary storage if the selected block is the first block, wherein the bottom portion is bound by a bottom block boundary of the first block and a beginning of the object;

1) copying a bottom portion of the selected block to a temporary storage if the selected block is the first block, wherein the bottom portion is bound by a bottom block boundary of the first block and a beginning of the object;

2) copying a top portion of the last block to the temporary storage if the selected block is the last block, wherein the top portion is bound by an

2) copying a top portion of the last block to the temporary storage if the selected block is the last block, wherein the top portion is bound by an

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upper block boundary of the last block and an end of the object;

3) erasing the selected block; and

4) copying the temporary storage to the selected block, if the selected block is one of the first and the last blocks.

upper block boundary of the last block and an end of the object;

3) erasing the selected block; and

4) copying the temporary storage to the selected block, if the selected block is one of the first and the last blocks.

Claims 18-21 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-3 of copending Application No. 6,182,188. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

10/654,559

18. The method of claim 4 wherein the nonvolatile memory comprises flash electrically erasable programmable read only memory.

19. The method of claim 4 wherein the nonvolatile memory is a symmetrically blocked nonvolatile memory.

20. The method of claim 4 wherein the nonvolatile memory is coupled to a processor, wherein executable instructions for performing steps a), b), c), d), and e) are stored in the nonvolatile memory, wherein the processor executes the executable instructions.

21. The method of claim 4 wherein the nonvolatile memory is a boot device.

7. Claims 1-3 patent number 6,182,188 contain every element of claims 18021, of the present application, and as such anticipates claims 18-21 of the present application.

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8. The present claimed invention and the conflicting claims are not exactly the same, however, the sets of claims are not patentably distinct. These differences are not sufficient to render the claims patentable and distinct and therefore a terminal disclaimer is required (Georgia Pacific Corp v United States Gypsum Co., 52 USPQ2d 1590, US Court of Appeals Federal Circuit 1999).

9. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use electrically erasable programmable read only memory because the patented invention claims nonvolatile memory the EEPROMs are common and popular nonvolatile memory devices.

10. It would have been obvious to one of ordinary skill in the art at the time the invention was made for the nonvolatile memory device to be symmetrically blocked because this is a typical addressing for all memory devices and not just nonvolatile memory devices.

11. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a processor coupled to the nonvolatile memory with the processor executing the executable instructions because executing instructions are typical activities for processors and official notice is taken thereof.

12. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the nonvolatile memory as a boot device because boot devices are commonly memory types which don't require refreshing of the memory and are therefore more stable for jobs such as boot code storage and official notice is taken thereof.

13. "A latter patent claim is not patentable distinct from an earlier patent claim if the latter claim is obvious over, or anticipated by, the earlier claim. In re Longi, 759 F.2d at 896, 225

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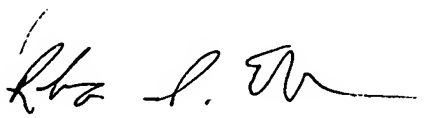
USPQ at 651 (affirming a holding of obvious-type double patenting because the claim at issue were obvious over claims in four prior art patents); In re Berg, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed. Cir. 1998) (affirming a holding of obvious-type double patenting where a patent application claim to a genus is anticipated by a patent claim to a species within that genus). ELI LILLY AND COMPANY v BARR LABORATORIES, INC., United States Court of Appeals for the Federal Circuit, ON PETITION FOR REHEARING EN BANC (DECIDED: May 30, 2001).

CONCLUSION

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reba I. Elmore, whose telephone number is (571) 272-4192. The examiner can normally be reached on Monday and Wednesday from 7:30am to 6:00pm, EST.

15. If attempts to reach the examiner by telephone are unsuccessful, the art unit supervisor for AU 2189, Reginald G. Bragdon, can be reached for general questions concerning this application at (571) 272-4204. Additionally, the official fax phone number for the art unit is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center central telephone number is (571) 272-2100.



Reba I. Elmore
Primary Patent Examiner
Art Unit 2189

Sunday, April 16, 2006

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